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Using the NLSCY to Study the Effects of Child Care on Child Development

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by
Gordon Cleveland and Douglas Hyatt

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Strategic Policy
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140 Promenade du Portage IV, 4th Floor
Hull, Quebec, Canada
K1A 0J9

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Hull (Québec) Canada
K1A 0J9

Téléphone : (819) 994-3304
Télécopieur : (819) 953-8584
Courrier électronique : research@spg.org
http://www.hrdc-drhc.gc.ca/dgra/

Abstract

The objective of this report is to determine whether and in what ways the National Longitudinal Survey on Children and Youth (NLSCY) can best be used to determine the effects of child care on the development of Canadian children. More exactly, this report recommends alternative ways to use the NLSCY to answer the following research question: "How much effect does child care have on later measures of child development, when all other positive, negative, and complementary factors are taken into account; further, how do these effects vary for different types of children/families?"

The report is divided into three chapters. Chapter One discusses a theoretical framework in which to consider the effects of child care on children. The framework links child care inputs to child development outputs through a "production process". Chapter Two discusses the main issues which are faced in using the NLSCY to assess the effects of child care on child development. These are: how to measure inputs, how to measure outputs, collecting information on necessary control variables, study design and sample size and statistical problems. Chapter Three provides conclusions and recommendations about additional questions to add to the Parent Survey for Cycle 3 and the collection of on-site observational measures of child care quality for a later cycle.

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Résumé

L'objet du présent rapport consiste à déterminer s'il est possible d'utiliser l'Enquête longitudinale nationale sur les enfants et les jeunes (ELNEJ) pour cerner les effets de la garde d'enfants sur le développement des jeunes Canadiens et les façons possibles d'y arriver. On y recommande plus particulièrement diverses façons d'employer l'ELNEJ pour répondre à la question suivante : «Quelle est l'importance des effets exercés par la garde des enfants sur la mesure ultérieure de leur développement, lorsque tous les autres facteurs positifs, négatifs et complémentaires sont pris en compte, et, comment ces effets varient-ils selon les divers types d'enfants et de familles?

Le rapport se divise en trois chapitres. Dans le premier chapitre, on discute d'un cadre théorique pour la considération des effets de la garde des enfants sur ces enfants. Ce cadre relie les intrants de la garde des enfants aux extrants de leur développement au moyen d'un «processus de production». Le deuxième chapitre traite des principales questions que soulève l'utilisation de l'ELNEJ pour l'évaluation des effets de la garde des enfants sur le développement de ces derniers. Ces problèmes sont : la façon de mesurer les intrants; la façon de mesurer les extrants; la collecte d'information sur les variables de contrôle requises; la conception de l'étude, la taille de l'échantillon et les problèmes statistiques. Le troisième chapitre expose des conclusions et des recommandations sur les questions supplémentaires à ajouter pour le troisième cycle de l'Enquête auprès des parents et sur la collecte de mesures d'observation sur place de la qualité de la garde d'enfants en vue d'un prochain cycle.

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1. Theory

Human children are born at a much earlier stage of development than are the young of other mammals. As a result, a larger proportion of human development occurs outside the womb, both inside the family and in extra-family experiences. With many young children spending increasing amounts of time in non-parental child care, it has become important to determine the nature and magnitude of the long-term effects of child care and the variation in these effects across different types of children in different circumstances.

The effects of child care on children are complex rather than simple. Research on child care, largely U.S.-based, has recognized this in moving from initial simple questions ("Is child care good for children?") to current complex questions ("In what ways do different aspects of child care affect child development? What are the respective roles of inherited abilities, family, social class, community supports and non-parental child care in the differential development of different children?).

1.1 Modeling the Effects of Child Care

Schematically, we can think of child development as if it were a production process. Analytically, we need to identify the inputs to this production, the outputs of this production and the process by which inputs are transformed into outputs (the technology by which inputs combine into outputs). If this general framework is accepted, there are a series of key questions we have to answer in order to be able to test this model empirically:

- What is the most appropriate measure (or measures) of child care?
- What are the most relevant measures of child outcomes?
- What other background or family factors, or other activities with potential developmental effects, are essential to control for?

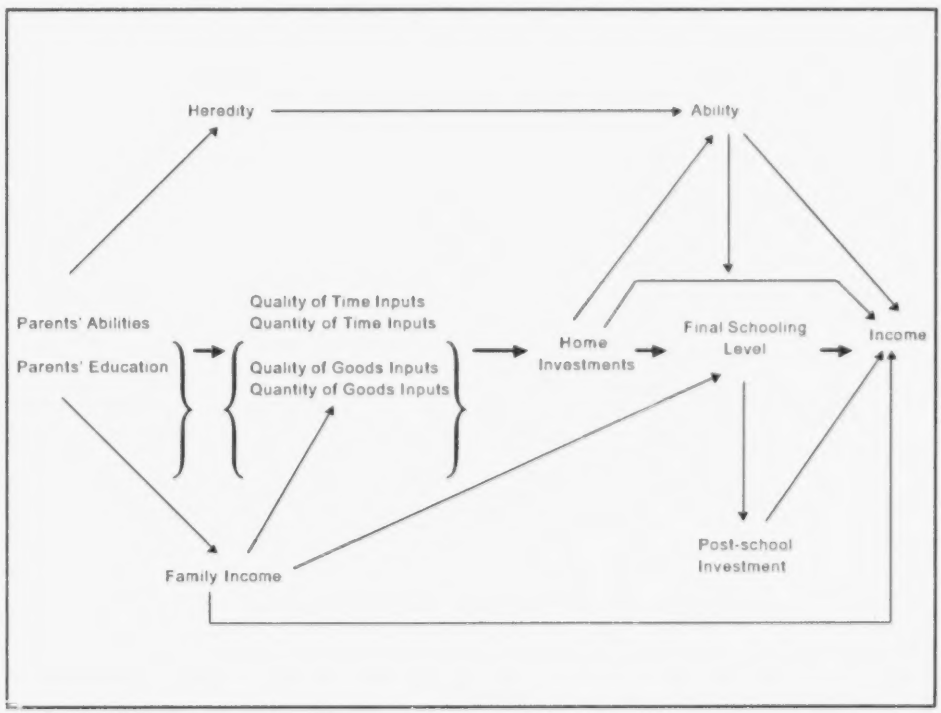
This "production process" model is, at least implicitly, part of a larger model of family decision-making. Child care inputs are not randomly determined events; families make deliberate choices about the type, amount and quality of child care they will use for each child. These child care decisions are influenced by a whole series of factors, many of which may be influenced by explicit policy decisions of governments.

Our general model of family decision-making is derived from Leibowitz (1974), with extensions by Haveman and Wolfe (1995). In other words, it is an economic model of how the family works to attain its objectives. Each family tries to make itself better off either by consumption [including consumption of leisure], asset accumulation, or investment in children. The family has, at any point in time, access to certain resources which can be used in different ways to achieve its objectives. Therefore, the family's decisions depend both on the resources it has available and on the objectives it is pursuing. The family's labour resources can be used to earn income or do household work (or to engage in leisure). Parent's choices include fertility, location of residence, family stability. The amount of family resources which are allocated to children, but also the nature of these resources and the timing of their distribution, will influence child outcomes. Child

outcomes will also be affected by the number of siblings, the neighbourhood grown up in, the number of geographic moves, and changes in family structure. If parents want to invest in children, they can do so by making expenditures on their health, skills, learning, motivation, credentials, and many other characteristics. The expenditures will depend on parental preferences, income and fertility. Parents can also transfer bequests to children.

Leibowitz's model, which is shown diagrammatically below, shows how a whole set of factors affect the final income (child outcomes) of the child as it grows up. The ultimate result is affected by the child's ability, the child's education in school, the post-schooling investment, and by family income. Of course, these factors are not independent. The child's ability is partly determined by parental abilities through heredity, partly by the amount of home investments in children. The child's education is determined by ability, by home investments and by family income. Post-school investments are determined by income, amongst other things. We could include child care as part of the "home investments" in Leibowitz's diagram without destroying its integrity. We expect child care, then, to be a determinant of the child's ability, of his/her final schooling level, of his/her income, of his/her post-school investments. We expect the choice of child care to be affected by the parent's education, the family income, and by factors which affect the choice of other time and goods investments in children.

Figure 1. Home Investments in Children



Source: Adapted from Leibowitz (1974)

Haveman and Wolfe's amendments to this model consist of considering three levels of actors who influence child outcomes: (1) government policies, (2) parent decisions, and (3) decisions made by the growing child. This can be seen as a recursive system, with the government providing the context for parental decisions, the parent providing the context for the child, etc. Haveman and Wolfe's amendments emphasize two points, therefore. The importance of including consideration of government policy and also the relevance of the child's decision making power (especially as children age).

This way of looking at the problem of child development suggests that the appropriate regression would be a measure of child outcome on the left hand side and then, on the right hand side, parent's abilities, parent's education, family income, type or quality of child care, controls for a host of other childhood activities that affect child development (activities that affect health, skills, learning, motivation, credentials, etc.), controls for other factors that affect child development such as number of siblings and family stability, controls for heterogeneity in the effects of child care on child development (gender, age, region, low income, health status, birth order, etc). Depending on the nature of the child outcome being considered, the child's education and post-education investments might also be included on the right hand side, and government policies that directly affected that outcome might be included (e.g., the cost/ease of getting an abortion in the probability of teen pregnancy). Of course, many of these regressors will be correlated, because they are not independent of one another.

1.2 Inputs

In the context of this family decision-making model, child care means non-parental child care, whether parents are working or studying or doing neither. Therefore, these non-parental child care services may or may not be paid, and may or may not be performed by someone who is not a relative of the child.

Child care has, of course, many dimensions. Most obvious, perhaps, there are different types of child care: full-day centre-based care, nursery school, care in a regulated family home, unregulated family home care, in-home care, care by a relative in the relative's home, care by a relative in the child's home. Although different types of care may well have different effects on children, types of care are not homogeneous. It may be of key importance to measure other dimensions of child care in order to assess the effects of child care on children.

Some of the key dimensions of child care, which could affect the development of the child are:

- type of child care used (e.g., centre care, regulated family home care, unregulated family home care, in-home care);
- history of types of child care used (e.g., during preschool years);
- amount of use of non-parental child care (e.g., total months of care during preschool years);
- structural measures of the quality of child care used (e.g., staff-child ratios, education of caregivers, group size, etc.);

- non-structural (process) measures of the quality of child care used (e.g., nature of caregiver-child interactions, stimulative and well-planned nature of child care program, etc.);
- auspice of care used (i.e., non-profit, commercial, public) either as a characteristic in its own right, or more likely, as a proxy for aspects of the quality of care (perhaps unmeasurable aspects);
- type of care or quality of care used at crucial ages or transition periods for the child;
- number of different non-parental caregivers in early years;
- consistency of expectations among different caregivers in early years (i.e., independent of how many caregivers are used);
- consistency of expectations and attitudes among parents and caregivers in early years (or between child care and culture or mores of ethnic or religious group); and
- interactions of any of the above (e.g., quality of care at certain key ages, amount of care in high quality during preschool years, etc.).

Some of these dimensions of child care are reasonably easy to measure with a parent survey (e.g., type of child care used). Others are more difficult but possible to measure with a parent survey (e.g., history of types of child care used, number of caregivers in preschool years). Some are relatively easy to measure, but parents are unlikely to know the answers with accuracy (e.g., staff-child ratio, education of caregiver). Some are complex to measure, and parents are unlikely to know the answers with accuracy (process quality of child care, typically measured by on-site observation). Note that many issues about measurement of the child care input to child development parallel similar issues with respect to measuring educational inputs.

Recent research in the effects of child care on child development has focussed on variations in the "process" quality of care as the most important measure of child care. Good quality child care will, it is believed, play an important role in developing the cognitive, social, physical, emotional (and perhaps moral) capacities of the young child. Good quality care is hard to achieve and requires extra resources, better trained staff, well-designed facilities and programs, etc. Variations in quality are an important source of differentiation among child care centres and amongst family home caregivers and other types of caregivers.

1.3 Outputs

Child development is both the process by which children mature and is a set of measures of the degree to which the child has acquired certain characteristics and abilities. There are many dimensions to the development of children: for instance, cognitive, social, emotional, psychological, physical. Child care may affect any and all of these dimensions of child development.

For instance, Lamb (in press) in a recent comprehensive review of literature on the effects of child care writes:

> Over the last decade, researchers have also come to recognize the diversity and complexity of childcare arrangements and their effects on children. Children grow up in a heterogeneous array of cultural and family circumstances, while many also experience multiple types of nonparental care. The diversity of family circumstances, the disparate array of nonparental care arrangements that exist, and the complex effects of endogenous differences among children all ensure that day care *per se* is unlikely to have clear, unambiguous, and universal effects, either positive or negative, when other important factors are taken into account." (P. 4)

In other words, different child care experiences will affect different children in different ways. Lamb mentions the following possibilities:

- acculturation of immigrant children (p. 18);
- preschool stimulation of children from disadvantaged backgrounds (p. 20, pp. 86-95, pp. 116- 124);
- early education for middle class children (p. 23);
- stimulation in the crucial early weeks, months and years of life (p. 24);
- effects on mother-child attachment of infant care (pp. 55-71) and preschool care (pp. 97-103);
- effects on the compliance of children with parents' and caregivers' requests, relationships with peers and general social competence (pp. 76-83 and pp. 103-112);
- effects on cognitive and intellectual competence (pp. 112-116); and
- avoidance of problems associated with "latchkey" status (pp. 124-131).

Measuring the effects of child care on child development implies determining the effects of a complex set of inputs on this heterogeneous group of child development outcomes, which are differentially relevant for different children.

2. The Main Issues

2.1 Measuring Child Care Inputs

Most of our current knowledge about child care's long-term effects comes from studies in which the child care input was defined in a way fairly easy to measure. For instance, Andersson (1989) considered the amount of continuous time spent in a particular type of child care during preschool years. Osborn and Milbank (1987) recorded the specific type of care (seven categories) in which a child was cared for at a particular point in time. The Perry Preschool Project's results were based on whether a child and his/her family received or did not receive a package of stimulative part-day preschool care and parent education or not.

It is possible that some easily measurable features of the child care used by children will end up being correlated with later child development. There are a number of candidates: the type of child care used, the auspice under which this child care is provided, the staff-child ratio in the care facility, the education level of the caregivers, the number of times the child changes caregivers in a given period. To the extent possible, data on these factors should be collected, in the parent survey instrument of the NLSCY, or in other ways.

However, it is not likely that these simple measures of the child care input will prove to be significantly correlated with later measures of child development. The consensus in recent theoretical research, and now the common practice in empirical research, is to use some more complex measures of child care quality as the main "input" variable. For instance, the influential Goteborg study (Broberg, Wessels, Lamb, and Hwang, 1997), collected information on the type of care, the length of time in care, measures of the structural quality of out-of-home care, and measures of dynamic quality (also known as process quality) of out-of-home care. This study found that all these different aspects of child care played distinct significant roles in determining child development outcomes at 8 years of age. The same practice of collecting complex measures of process quality, as well as simpler measures, has been followed in all three recent large-scale studies of child care and child development in the U.S. -- the Cost, Quality and Child Outcomes Study (Helburn, 1995), the ongoing National Institute for Child Health and Human Development (N.I.C.H.D.) Study, and the Child Development Supplement to the Panel Study on Income Dynamics (currently in data collection).

The Cost, Quality and Child Outcomes Study describes the distinction between different measures of quality in this way[1]:

> The ECE community refers to the quality of the inputs to production as *structural quality*, because at least some of the attributes are easily observed and measured, therefore regulatable by the state. These structural quality measures include the staffing ratio (in this study measured by the ratio of teachers to children present in a room), group size (the number of children in a given room),

[1] Hayes, Palmer and Zaslow suggest that the breakdown into structural and process quality corresponds broadly to the two arenas in which efforts can be made to enhance the quality of care: government regulations and professional standards. (p. 85)

> measures of teacher and director education, training and experience; square foot per child, and other measures of the quality of the facility which houses the center.
>
> *Process quality* refers to the general environment and the social relations in the ECE center. Process quality measures the quality of services which are directly received by children and their families.... Briefly, high-quality ECE, as defined by the profession, includes a well articulated program of good care, developmentally appropriate activities for children, nurturing staff members who interact with children to promote their emotional security and development, and a physical environment which provides adequate stimulation and opportunities for a wide variety of activities. Instrumentation for measuring process quality has been developed and used extensively to study process quality. (Helburn, 1995, pp. 25-26)

It has been a central theme of recent reviews of the lessons to be drawn from child care research (e.g., Lamb [in press]; Doherty, 1996; Hayes, Palmer and Zaslow, 1990), that the quality of non-parental child care is of crucial importance. It is not an overstatement to say that most researchers appear to believe that the quality of child care (as measured by some index of process quality) is the most fundamental determinant of the effects of child care on child development (with its effect varying according to family background, income level, other early childhood experiences, child's age, etc.) More precisely, it is believed that it is the process quality of all early childhood care experiences over a period of years in the young child's life that is fundamental.

2.1.1 How To Measure Process Quality

The normal procedure for measuring process quality in a child care arrangement is to use some sort of measured index of quality based on on-site observation of the child care arrangement by trained observers. For centre-based care in the U.S., the Early Childhood Environment Rating Scale (ECERS - for children over 30 months) and the Infant-Toddler Environment Rating Scale (ITERS - for children 30 months and under), both developed by Harms and Clifford (1980, 1990), have become the standard measuring-rod.

David Blau (1997) provides the following brief description of these instruments:

> These scales... consist of about 30 items on which each classroom is scored on a scale of 1 to 7 by an observer over a minimum of a two-hour period. The items include the physical setup of the room; furnishings and materials; personal care routines such as greeting, meals, snacks, diapering, health practices, and departure; learning activities such as use of language, art, music, movement, blocks, and, pretend play; adult-child and child-child interactions, including discipline; and program structure.

The overall ECERS and ITERS scores can be broken into two subordinate scales known as the Developmentally Appropriate Activity index and the Appropriate Caregiving index. The former incorporates items related to materials, schedule, and activities; the latter incorporates items related to adult-child interactions, supervision and discipline.

There are a number of other indexes of the quality of the caregiving environment. For centre-based care, there are:

- the Caregiver Interaction Scale which measures the sensitivity, harshness, detachment, and permissiveness of the caregiver (Arnett, 1989);
- the Adult Involvement Scale which uses time-sampled observations to measure the intensity of teacher-child involvement (Howes and Stewart, 1987);
- the UCLA Early Childhood Classroom Observation Form which rates the classroom program along a scale of didactic to child-centered (Stipek, Daniels, Galuzzo and Milburn, 1992);
- the Assessment Profile for Early Childhood Programs (APECP) which has over 150 items (Abbott-Shim and Sibley, 1987,1992); and
- the Classroom Practices Inventory (CPI) with 26 items which attempts to follow the National Association for the Education of Young Childrens's (NAEYC) Guidelines for Developmentally Appropriate Practices (Hyson, Hirsh-Pasek, and Rescorla, 1990).

In family home child care, the Family Day Care Rating Scale (FDCRS; Harms and Clifford, 1989) was developed to provide a 6 - factor assessment of the quality of home-based care, using 32 items to make up the 6 factors.

Some indices might be particularly relevant for the NLSCY, because they apparently are able to rate the quality of child care using a scale which is common to several different types of child care (e.g., both centre-based and home-based types of care). Our knowledge of these indexes is currently limited. However, the Quality Assurance Project being conducted (by Doherty and others) for the Canadian Child Care Federation is currently reviewing these and other indexes and will report in the next couple of months. The indexes in question are the H.O.M.E. scale, the Belsky and Walker Spot Observation Checklist, and the ORCE.

The H.O.M.E. scale's full name is "Home Observation for Measurement of the Environment". It was developed by Bettye Caldwell (Caldwell, 1970; Caldwell and Bradley, 1984) and has different versions according to the age of the child. It has been used in the Goteborg study to measure the quality of care provided in the parental home. The Belsky and Walker Spot Observation Checklist (Belsky and Walker, 1980) was also used in the Goteborg study, both as a supplemental measure of the quality of care in the child's home and to measure process quality in out-of-home types of care (see Broberg, Wessels, Lamb, and Hwang, 1997; Lamb, Hwang, Broberg, and Bookstein, 1988).

The Observational Record of the Caregiving Environment (ORCE) has been used by the NICHD study to assess the quality of care in the child's home, in a child care home and in a child care centre. The ORCE is composed of behavioural scales, which are frequency counts of specific caregiving acts with the child, and qualitative ratings, which are ratings of the quality of the caregiver's behaviour with the child. The ORCE is constructed using four 44-minute cycles of observations by trained observers. Observations take place over two days, within a two-week period.

The behaviour scales enumerate the frequency of the following kinds of behaviours:

- shared positive affect
- positive physical contact
- responds to vocalization/ child's talk
- speaks positively to child
- asks questions of child
- other talk to child
- stimulates cognitive development/ teaches academic skill
- facilitates behaviour
- mutual exchange
- negative/ restricting actions
- speaks negatively to child
- child watching/ unoccupied/ transition

The qualitative ratings completed at the end of each 44-minute cycle include:

- sensitivity/responsiveness to non-distressed communication
- stimulation
- positive regard
- detachment/disengagement
- flat affect
- intrusiveness (at 36 months)
- fosters exploration (at 36 months)

Up to this stage in the NICHD study (36 months), the scales of the ORCE are substantially similar at all assessment ages, with minor modifications to accommodate the increasing developmental complexity of caregiver-child interactions.

2.1.2 Problems in Measuring Process Quality

Lamb suggests that, "In the United States, scores on the various process measures are in fact highly correlated with one another." (p. 43) If true in Canada, this would be very good news, because it would make it possible "to use composite measures containing fewer items to measure quality than the complete measures do (Scarr, Eisenberg and Deater-Deckard, 1994)." (Lamb, in press, pp. 43-44). However, we have little experience using these process quality measures in Canada, so it is difficult to know whether all measures (at least the centre-based ones) perform similarly.

Although Lamb indicates that ECERS and ITERS are "employed by most researchers in the United States." (p. 42), concerns have been expressed about these instruments. One of the tasks of the Canadian Child Care Federation's current (Visions-funded) Quality Assurance Project is to evaluate criticisms that ECERS and ITERS do not take sufficient account of caregiver-child interactions, of the scope of parental involvement in the centre and the degree of acceptance of diversity and the encouragement of inclusion of diverse children. In the Quality Assurance Project, ECERS and ITERS will be compared to their alternatives in order to provide advice on the most appropriate observational measures of quality for use in Canadian child care[2].

It has also been suggested that structural measures of quality and process measures of quality are typically highly correlated (see Lamb, p. 49; Howes, Phillips, and Whitebook, 1992; and the references cited on p. 137 of Helburn, 1995). However Scarr et al. (1994) found that scores on various structural measures of quality were poorly correlated with one another and were not correlated with scores on the process measures of quality. Further, Blau (1997) using data from Howes, Phillips and Whitebook (1992) finds that key measures of structural quality are not significant in explaining process quality. The importance of this finding is a negative discovery: it is insufficient to use structural measures of quality as a proxy for process quality in child care.

Another alternative to on-site inspections of quality by trained observers is currently being tested by the PSID. In effect, the child's caregiver is asked to provide detailed information about various structural measures of quality (e.g., her education and specific training, the staff-child ratio) and then she is asked to complete a day-long time diary about the interactions between herself and the target child. For each activity during the day, the caregiver is asked to record: the nature of the activity (from a list), the time it began, the time it ended, where the child was (from a list), who was doing the activity with the child (from a list), whether the caregiver was with the child at that time, what the caregiver was doing at that time (from a list), how the class was structured for this activity (from a list), what instructional format was used for the child's activity (from a list), what materials were used for the child's activity (from a list), and what the child's behaviour was like during this activity (from a list). There is room for reporting on 22 separate activities during the day. Caregivers are also asked about their preparation for the day in the morning, activities after the children leave, and preparation for the next day in the evening. This is an intriguing alternative to on-site observation, but it clearly has a large number of potential problems, including accuracy, completeness, caregiver fatigue and response bias. The PSID does not present an alternative to measuring process quality but rather an *alternative way* of measuring process quality. At this stage it should be considered as an unproven alternative.

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[2] It is recommended that the NLSCY team pay close attention to the report of this project. Its report will probably define the Canadian opinion on the most appropriate process quality measure to be used in studies such as the add-on to Caring For A Living II (which will assess quality in child care centres). Up till now, ECERS and ITERS have been used in any Canadian and many American studies; this gives these instruments the advantage of comparability with previous results. However, studies such as Cost, Quality and Child Outcomes have supplemented ECERS and ITERS with other measures, partly due to the perceived weaknesses of the measurements of caregiver-child interactions. It is essential that this key aspect of child care quality be well measured. And it is highly desirable that the process quality measure used be applicable to various different types of care, not just centre care.

2.1.3 Work/Study Child Care or All Child Care?

The NLSCY collects information on the type of child care currently used in two sections of the questionnaire currently. If the child care facilitates the work or study of parents, the information is collected under the Child Care section (p. 156 - 161). If the child care is for child development/ or parental respite purposes exclusively, the information is collected under Activities (p. 105). Whatever changes are made to the collection of child care inputs should be implemented for both of these groups of child-care-using families. Child care's effects on child development are not dependent on the labour force status of the parents, although they may be affected by it. Newly collected information about the child care history of children (recommended below) and even on-site observations of quality in child care facilities should be implemented irrespective of the purpose for which child care is used.

2.2 Measuring Child Development Outputs

There are a wide variety of aspects of child development which may be affected in different ways by child care for different children, as noted above. However, the NLSCY provides a considerable range of potential measures of child development. These include:

- cognitive outcomes
  - Picture Peabody Vocabulary Test (Revised) at age 4-5
  - math skills tests at grades 2 and up
  - assessment of child's achievement by teacher from 4-11 years
  - skipping and repeating grades

- social skills
  - child's relationships with others (4+ years)
  - how child feels about himself from 10-11 survey and how doing at school

- emotional well-being
  - pro-social behaviour and various anti-social behaviours from 4 years, from behaviour measures
  - smoking, drinking and drugs from 10-11 survey

- physical development
  - measures of motor, social and cognitive development of young children 0-3 years
  - self measures of puberty at 10-11.

It seems reasonable to suppose that these measures will be adequate for assessing the effects of child care on child development.

2.3 Other Inputs and Intervening Factors

From the discussion of theory above, we concluded that the appropriate regression to run would have some measure of child development outcomes on the left hand side and, on the right hand side the following types of variables:

- parent's abilities;
- parent's education;
- family income;
- type and/or quality and/or amount of child care;
- controls for a host of other childhood activities that might affect child development (activities that affect health, skills, learning, motivation, credentials, etc.);
- controls for other factors that affect child development such as number of siblings and family stability;
- controls for heterogeneity in the effects of child care on child development (gender, age, region, low income, health status, birth order, etc); and
- controls for the inherited abilities of the child, if not already included in the above.

Depending on the nature of the child outcome being considered, the child's education and post-education investments might also be included on the right hand side, and government policies that directly affected that outcome might be included (e.g., the cost/ease of getting an abortion in the probability of teen pregnancy).

2.4 Sample Design

If we need on-site inspections of quality in order to get adequate data on the appropriate child care input, this raises important questions about the appropriate sub-sample or supplementary sample to use for the collection of this data.

There are a number of questions here:

- Are we trying to cover all types of non-parental care, or only centre-based care?

- Do we need to get children from birth and then sample them every couple of years till at least six years of age in order to get observational measures of quality from their entire childhood? Or is a single measurement of quality (at age 3 or 4), plus some questions to parents about child care history, sufficient?

- Are we trying to get nationally and provincially representative data and for rural and urban and remote areas, or are we simply trying to get a fairly large randomly-selected sample?

- Is it important to have geographically compact samples of children in order to lower the cost of on-site observation, and what do we give up by doing this?

- How big a sample do we need to collect?

The proposal made by Donna Lero, Hillel Goelman, Gordon Cleveland, and Ruth Rose to Child Care Visions, entitled *The Effects of Early Childhood Experience on Children's Development: A Proposal to Extend the NLSCY to Assess the Combined Effects of Child and Family Variables, and Early Child Care and Education as Factors Contributing to Children's Development,* has made a number of alternative proposals. These include the following:

- a supplementary sample, with on-site observations and interviews in day care centres;
- a supplementary sample, with on-site observations and interviews in day care centres and regulated family care;
- a supplementary sample, with on-site observations and interviews in day care centres, regulated family care, and unregulated family care;
- a supplementary sample, with on-site observations and interviews in day care centres, regulated family care, unregulated family care, care provided by a non-relative caregiver in the child's home, and care by a relative; and
- no supplementary sample, but a selected sub-sample of the existing NLSCY sample, with on-site observations and interviews with caregivers in all the sites listed in the alternative mentioned just above in this list.

It should be noted that additional questions in the NLSCY parent interview are assumed to be included in each one of these alternatives.

There are two key aspects of the choice among these alternatives: whether a supplementary sample is needed and what types of care should be included. The rest of this section of the paper provides some analysis and insights into the factors affecting the decision about the choice of sample. However, cost and the probability of non-response are important factors we are unable to judge adequately. Additional work on these factors is desirable before final decisions are made.

2.4.1 The Types of Care To Include

The NLSCY is not designed to provide information about the development of only a small subset of children, but about the entire range of children. It is a more appropriate use of the NLSCY to assess quality in the whole range of types of non-parental care and for those using them for work/study purposes and for other purposes.

This logic would not hold if the instruments for measuring process quality were only tested and valid in child care centres and not in other forms of care. However, even though these indexes have been much more used in centres than elsewhere, it appears that indexes which provide some comparability across types of care now exist and are being used. The work of the Quality Assurance Project will provide some greater information on these matters in the near future.

A particular virtue of looking at all types of care is that it will likely increase the range of qualities of care considered. Although there are clearly variations in provincial/territorial child care regulations and monitoring, licensed child care programs are likely to represent a narrower range of qualities than in other types of care. Since small differences in child care quality and child development are likely to be difficult to measure accurately, the inclusion of a wider range of qualities and development outcomes will make it easier to statistically establish the correlation between child care quality and child development.

2.4.2 Supplementary Sample Versus Regular Sample

It has been recommended in the proposal by Donna Lero and others to Visions that a supplementary sample of children be collected in order to do on-site child care quality inspections. There are several distinct virtues of a supplementary sample:

- All added children could be the same age, ensuring that information on all children in the sample is collected comparably;
- If collected in and around six urban areas, the sample would be geographically compact, lowering costs and administrative difficulties of on-site quality inspections;
- When recruited, parents would know about child care survey plans, potentially lowering non-response rates for on-site inspections (perhaps an important issue for some types of care);
- The rest of the NLSCY sample would be insulated from any response-burden issues associated with in-depth investigation of the child care issue.

However, there are also distinct problems with a supplementary sample:

- Extra costs and administrative burden could be high. The fairly large number of newly recruited children/families would have to be retained in the sample for the entire duration of the study to provide longitudinal child development results;
- Results would only strictly be valid for the six urban areas and areas having similar characteristics;
- Since recruitment of new families would be conditional on willingness to complete an in-depth child care investigation, the families would be a self-selected sample of all Canadian families.

Use of the regular NLSCY sample might be a more cost-effective option. Willingness to use the regular NLSCY sample requires a positive response to the following questions:

- Will the extra response-burden on current respondents be tolerably low?
- Is the cost of on-site observation in dispersed locations sufficiently low? (child care observation could take place in an urban sub-sample only)

- Does the NLSCY intend to continue to refresh the sample with young children and retain them so that the child care inspections (implemented in Cycle 4) will include children of young ages?

- Is the sub-sample of the current NLSCY sample which would undergo on-site child care observations sufficiently large to analyze the effects of child care on child development?

2.4.3 The Size of the Sample

With sample sizes, it is always true, from the researcher's point of view, that more is better. The larger the sample, the more likely are any results to have statistical significance, and, in general, the more the sample can be broken down and different components examined separately.

So, for instance, examining the effects of child care on poor children separately, or on the children of single parents separately, or on children in the North West Territories and the Yukon separately, etc., etc. is not possible unless the sample size is large. However, if the anticipated effects of child care on all children are similar in kind, though not necessarily in degree, so that poverty, single parenthood and so on can be entered as dummy variables in an overall child development regression, then the required sample size is much smaller. So, the necessary size of sample depends upon what one wants to do, which depends ultimately upon the theoretical expectations of the researcher.

It would seem that, for most purposes, the existing NLSCY sample should be large enough. The N.I.C.H. D. sample, for instance, includes less than 1400 families with (at 36 months) about 30% in child care centres, 20% in family child care homes, nearly 30% in either relative care or in-home care and just over 20% being cared for by mother. The PSID is smaller than the NLSCY (originally about 5,500 families, it has grown to more than 8,000 but many families do not have children, or children of the right age, or children using child care). Studies such as the Goteborg study are very small (146 children), although the sample design in these cases generally reduces the necessary sample size.

The exact numbers of children from the NLSCY who would be eligible for on-site child care observation is not known. The following back-of-the-envelope calculations can establish a general range. If there are about 20,000 children 0-11 at any point in the NLSCY, there will be about 10,000 or more who are of preschool age (which is the target age range for on-site observation). More than half of these will be using child care at any time (the 1988 CNCCS reports about 70%), so take a conservative estimate of 5,000 using non-parental care. Even if we were to take a sub-sample of only half to two-thirds of these children (concentrating on urban areas and allowing for non-response), the resulting data set would be larger than the N.I.C.H.D. and adequate for many types of analysis.

The data would not be valid for separate analyses of the effects of child care in each province and territory, although provincial/territorial variables could be a component of a larger analysis. Similarly, it is unclear whether there would be adequate data for separate analysis of the effects of child care on disadvantaged children, children with special needs, native children, etc. However, each of these variables could be included in a broader analysis of the effects of child care. It is not

clear, in any case, that the NLSCY is the best vehicle for separate analysis of effects on tightly delimited groups of children.

2.4.4 One or Several On-Site Observations

It would be ideal to collect measures of child care quality at several points in a child's preschool life. Theoretically, we do not believe that it is child care quality at only one point in time that influences later child development. Instead, we believe that quality of non-parental child care throughout the early years is important. Should the NLSCY, therefore, plan to collect observations in several successive cycles?

This issue seems premature to face at this time. It may be that one set of observations, together with information provided by the recommended child care history data collection, structural measures of quality, and information on the type, amount and stability of child care used are adequate to produce reasonable estimates and analyses. This is likely to be true if there is substantial positive correlation in the quality of care chosen by parents for a child over its preschool years (i.e., kids in poor quality care have previously been in poor quality care and those in good care have previously been in good care). By the time one round of on-site observations have been collected, and analyzed, we will be in a better position to judge the costs and benefits of additional rounds of on-site observation.

2.5 Statistical Issues

Considerable statistical difficulties arise because the NLSCY data do not arise from a "random-assignment experiment". In other words, children are not randomly assigned to different types and qualities of child care. Decisions about whether mothers work are not random. Decisions about the quality of school, the character of neighbourhood, the encouragement to read are not made by random-assignment. In other words, many variables in the NLSCY, including the type and quality of child care are not exogenous variables. And all these non-exogenous variables are potentially correlated with one another and potentially correlated with the error term in any regression.

A hypothetical example will explain this situation. Let us say that a child goes to a good quality child care centre and then ends up getting excellent marks in Grade 10. Presuming that all researchers agree that the measurement of "good" quality in child care was done appropriately, and that marks in Grade 10 is a good measure of child development, what can be concluded? Since we know there are a host of other family, neighbourhood, child and governmental policy factors that will have affected this child's success in Grade 10, we have to control statistically for all these factors. If we have good measures of them in the data set, this is not a big problem; just add them in on the right-hand side of the "child development regression". However, to get a good estimate of the separate effect of child care on child development, it is important that this host of family, neighbourhood, child and government policy factors is not correlated with the quality of child care chosen.

If some of these variables are strongly correlated with the quality of child care used (and unless child care is randomly assigned to families, we think they will be), there are two possible problems. First, and the smaller problem, is multicollinearity. If some of the explanatory variables are too collinear, it will not be possible to statistically separate out the influence of these different factors.

The second problem will occur if some of the factors that are correlated with the quality of care are omitted from the regression. For instance, many children who go to good quality child care centres may also go to good-quality summer programs (computer summer camps, art classes, *Outward Bound* experiences, etc.) during their early years in school. Many children who use poorer quality child care may not go to innovative summer programs. Perhaps, the quality of early child care doesn't really make much difference to children, but good quality summer camps provide a very special experience compared to just bumming around the house in summer. However, the NLSCY may not collect significant information about the quality of summer programs, so they will not be included in the regression. As a result, we will conclude that good quality child care has a big positive effect on children, when it really doesn't. The point is that, since child care quality is not randomly assigned, child care quality is likely to be either positively or negatively correlated with a whole lot of other experiences in a child's life. If several of these experiences have important developmental effects, but are not included in data collection, our conclusions about the effects of child care quality may be biased.

What is the relevance of raising these concerns? Is there anything we can do? There may be a couple of things. First, it means we need to be vigilant about identifying all the major factors that will affect a child's development and which are likely to be correlated with the quality of care chosen. Then, we need to ensure that data on these variables is collected in the NLSCY. It appears that a large number of relevant variables are collected. Second, since the number of factors which are potential omitted variables will increase with the length of time between child care use and our chosen measure of child development, this argues for looking at some short-term effects of child care as well as the longer-term effects of child care. Third, some authors have controlled for similar factors by concentrating their data analysis on comparing siblings within the same family, one of whom has used good child care and the other of which has not. We might consider whether this is possible in the NLSCY.

3. Conclusions and Recommendations

3.1 Adding Questions to the Cycle 3 Parent Questionnaire

What information on child care use do we currently obtain with questions asked in the NLSCY? The following information is collected from parents who are either working or studying:

- Do you use child care or have you ever used child care while working/studying?
- What types of child care do you currently use for Child X?
- For how many hours/week?
- Is it licensed?
- Is it profit/non-profit?
- For how long have you used the main child care arrangement?
- Have you had problems with this arrangement in the last 6 months?
- Number of changes in last 12 months (or total number of changes if you are not currently using)?
- What are your reasons for changing caregivers?

There are additional questions about whether Child X attended JK and/or SK. Also, in the Activities Section, whether Child X is currently in a nursery school, play group, or other early childhood program or activity and what specific type and how many hours of care are received.

It is possible, however, to supplement existing information by asking questions on the Parent Survey about the following topics:

- History of type and amount of non-parental child care used during preschool years.
- Included in above - information about type of care used at certain "key" ages.
- Included in above - number of different caregivers used during preschool years.
- Parental opinions about features of care that are generally related to quality.
- Price of care used, which may be positively correlated with quality.

These types of questions would improve the richness of our information about the child care input to the child development process. The proposal jointly authored by Donna Lero and others to Child Care Visions recommended a set of questions to be added to the Parent Survey. In response to further criticism and discussion, a revised set of questions based on the topics listed above was created. This revised set of questions can be found in the Appendix.

3.2 Rationale For Questions Added to the Parent Survey

In the Appendix are a number of different types of questions to be added to the Parent Survey. For each type of care possibly used while the parent works or studies, the following additions are made:

1. For two types of care, a question to clarify the type of care used (i.e., which relative is providing care, the type of in-home caregiver);

2. The number (and, except for centre care, the ages) of other children cared for by the caregiver/centre;

3. The training of the caregiver;

4. An evaluation by the parent of the quality of care used, in response to specific statements about characteristics of care;

5. The amount paid for this child care; and

6. Whether the arrangement is regarded as temporary.

In addition, a set of other questions is recommended for all children, whether parents are currently working or studying or not. These questions concern:

7. The child's history of child care use in preschool years, i.e., a complete record of the age at which each care arrangement started and ended, the type of care used, the number of days and hours used each week and why the arrangement ended;

Questions to clarify the type of care used are a reflection of the heterogeneity of care by relatives and by in-home caregivers. More detail on type of care may allow researchers to establish a correlation between these finer breakdowns of type of care used and later child development effects.

Questions 2, 3 and 6 from the list above (number and ages of children, training of caregivers, and whether care is temporary) provide information about some elements of the "structural" quality of care. If the NLSCY team decides to proceed with on-site observation of quality in care arrangements, this information would be more accurately collected from the caregiver rather than the parent. In this case, the only reason for collecting the information simultaneously from the parent would be to check the accuracy of the parents' knowledge about their child's care arrangement. See immediately below for a discussion of this issue.

Question 4 from the list above asks the parent to evaluate the child's caregiving arrangement in response to a series of statements about the characteristics of care. These questions, in effect, ask the parent to measure the "process" quality of care received. Obviously, given the theoretical importance of process quality to child development, these questions are essential, as a second best, if the NLSCY team decides not to proceed with on-site observations of child care quality. Are they, however, desirable questions if process quality is being directly measured by on-site observation?

If we consider this issue from the point of view of those who make public policy, there is a strong rationale for collection of both objective (from trained observers) and subjective (from parents) measures of process quality. Policy makers need to know the answers to several questions about child care and child development. First, does the quality of child care experiences affect child development and by how much is child development affected? Second, are parents aware of these effects and are they adequately able to judge and choose good quality child care? Third, even if parents are able to judge child care quality, are they willing and able to devote sufficient resources to acquiring this good quality care?

The objective measures of process quality are appropriate to answering the first of these public policy questions. The subjective measures of quality, when compared to the objective measures, can contribute substantially to answering the second of these questions (the Cost, Quality and Child Outcomes Study measured process quality both objectively and subjectively and found substantial and consistent differences). Information about parents' child care choosing behaviour and about the price of child care (see question 5 from the above list) can help answer the third of these public policy questions.

The questions on child care history (question 7 above) will provide several types of information. The number of changes in child care arrangements over the child's early life is believed to affect child development; the total amount of time spent in non-parental care in early years is also believed to affect children. The child care history would also be used to "modify" or interpret the data from direct on-site observation; if the child has had many child care changes in early life or if the child has only recently entered the "observed" child care arrangement, the observed quality of care may not be strongly correlated with later development. On the other hand, if the child has experienced few changes in child care and has been in the "observed" care arrangement for a considerable time, we will anticipate observing the influence of this arrangement on the child's later development patterns. The child care history will provide this information.

3.3 Priorities Among Questions Added to the Parent Survey

All questions recommended for addition to the Parent Survey are desirable; the rationale for these questions has been presented above. Deciding not to include a question amounts to a decision not to collect information which will answer a particular research question. Of course, research questions can themselves be prioritized. The priority ranking below takes into account both the existing state of research knowledge and the importance and urgency of the public policy applications.

3.3.1 First Priority

Given the discussion in Chapter 2 above, clearly the most important innovation for the NLSCY is the on-site observation of "process" quality in current child care arrangements. This is the highest priority, because this information is the most likely to allow researchers to establish the anticipated link between child care and child development. Collection of data from caregivers on structural features of quality[3] is anticipated as a complement to the on-site observations.

3.3.2 Second Priority

If on-site observations are included in the NLSCY[4], then the most important additional questions are probably those which have to do with child care history. These are important in their own right (i.e., child care turnover is expected to affect development), and as a guide to interpreting the on-site observations and determining whether a second set of observations during preschool years is highly desirable. There may be some flexibility in the "depth" of the child care history questions; for instance, the NLSCY could ask only about the "main" non-parental arrangement at any time, rather than about all supplementary arrangements.

3.3.3 Third Priority

The third priority for additions to the NLSCY would be parent questions which provide a "subjective" evaluation of process quality. These questions would allow researchers to determine either how good parents judgements of quality are, or whether parents are able to observe something about quality which on-site observations are not (depending on whether there are differences between the subjective and objective quality measures and which one is most correlated with child development measures). Again, there is some flexibility in these questions to parents. These questions (and others) could be asked about all types of care or only about the "main" type of care used. Clearly the second option would reduce the number of questions answered by any parent.

3.3.4 Fourth Priority

It is hard to establish priorities amongst the other questions. Questions clarifying the type of care used for in-home care and care by relatives would be useful and not burdensome. The question about the amount paid for child care would help explain parental choices if non-optimal quality is chosen and it would be useful to see whether observed quality and price charged are strongly correlated. The question on parent evaluation of "structural" quality provide information about whether parents have accurate information about key characteristics of their child's care. I would

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[3] It is desirable to know the degree of correlation between objective measures of structural quality (e.g., child-staff ratio, training of caregivers) and objective measures of process quality in order to draw conclusions about whether changes in child care regulations (i.e., structural quality) will affect the experiences of children in child care (process quality). It may be that process quality affects children, but that process quality is largely unaffected by the regulatable aspects of child care.

[4] If on-site observations are not included, then the parental (i.e., subjective) evaluation of child care quality would become the first priority amongst questions asked.

probably rank their importance in approximately the order just listed. As above, there is flexibility about whether these questions are asked about all types of care or only the main type.

3.4 On-Site Quality Inspections in Cycle 4

Although some child care studies have been able to establish a link between good child care and child development without on-site quality observations, these are the exception rather than the rule. Theoretically, there seems to be a consensus amongst child development and child care experts that, although quality is a multi-dimensional construct which is inherently difficult to pin down, it is variations in "process quality" that we expect will have determinant effects on child development. Furthermore, there is reasonable evidence that the links between process quality and any other indicator of quality are not sufficiently well established that some other measure can be used as a proxy for process quality. Therefore, some direct measure of "process quality" should be the main variable on which data should be collected for longitudinal child care studies.

ECERS and ITERS have, up till recently, been the natural choice of researchers looking to measure process quality in centre-based care. A somewhat similar, but not directly comparable, measure was available for family home child care. The situation is currently in flux. ECERS and ITERS have been criticized on several counts: inadequate measures of caregiver-child interactions, inadequate attention to issues of cultural diversity and inclusion (which may be more important in a Canadian context), etc. Further, some recently-developed measures apparently produce quality measures which allow for quality comparisons across types of care (rather than just within one type of care). The relevance of these different measurement instruments to Canadian child care studies is currently under consideration.

Given the nature of the NLSCY and the apparent availability of instruments which can measure quality comparably in different types of child care arrangement, we recommend inclusion of a number of different types of child care in on-site observations. Ideally, this would include not only licensed centre care and regulated family home care but also unregulated family home care, in-home care by non-relatives and care, either in the child's home or the relative's home, by a relative. Parents of young children may not be willing to permit on-site observations in the case of care by a relative or in-home caregiver. This was not true in the case of the NICHD study, but testing by Statistics Canada is likely to be necessary to determine the degree of resistance. It would be desirable to do on-site observations for families where parents are not currently working/studying if they are currently using child care.

The next issue to consider is whether a supplementary sample or the regular NLSCY sample would be used for on-site observations. There are some cost and response-burden issues here which we are not capable of fully judging, so the recommendations we make must be somewhat tentative. However, it does not appear to be necessary to use a supplementary sample purely for the reason of obtaining a larger sample size; for most analyses at a national level, the number of respondents in the NLSCY who are currently using child care would be adequate (or even a subset of this number). The advantages of the supplementary sample are the possible geographical compactness and increased ease and lower costs of on-site observations. The disadvantage is that the supplementary sample needs to be kept as part of the NLSCY for a large number of years, increasing the overall cost over the long term, and that the supplementary

sample would not be a representative one. One way of improving the benefit-cost ratio of using the regular NLSCY sample is to select an urban subset (20 or 30 urban areas) of the sample for on-site observations. We expect that a decision to use the regular NLSCY sample would be more cost-effective in the long run.

In theory it would be desirable to have on-site observations of child care quality occur several times over the preschool life of each child. We recommend not facing this decision now. If there is strong correlation in the quality of care used in one time period and another, one observation may be sufficient to establish a statistically significant relationship. We will gain considerable information about both the costs and benefits of on-site observations by undergoing this exercise once. At that point, we would be better placed to make a succeeding decision.

No matter what the decision made about the precise design of the on-site observation component of this study, the additional data on child care inputs collected through additional questions in the Parent Survey should be collected.

Appendix

"Amended" Proposed Additions to Existing Questions As Asked in Cycle 1

To be answered by those who are currently using child care while working or studying

(For those using care by a relative -- in own home or relative's home)

1. How is this person related to your child?
   - Parent or step-parent
   - Grandparent
   - Aunt, uncle or other relative

2. How many other children, if any, are cared for regularly by this relative, whether part-time or full-time (including her own children)?

What ages are these children?	Number of children
0-1 years	_____
2-3 years	_____
4-5 years	_____
6-9 years	_____
10 and over	_____

3. To your knowledge, does this relative have any training in early childhood education, or child care, at the college or university level? Yes/No/Don't Know

4. Based on your experiences with this relative (perhaps with comparison to other arrangements you may have used in the past or considered using), to what extent does this caregiving arrangement ....

   - provide warm, loving care that meets your child's individual needs?
   - encourage your child's independence and self-control?
   - provide lots of interesting activities that help your child learn new things?
   - encourage your child's language development through songs, stories, and organized play?
   - provide a clean, safe area for children to play in -- both indoors and outdoors?
   - provide the kind of advice, and information that makes you feel comfortable and supported in your role as a parent?

(For each of the above)

Very much Adequate Not as much as it could/I would prefer Not relevant/No answer

5. How much does your family pay this relative to care for your child?

Appendix (Continued)

(If some amount other than zero) Is that per hour, per day, per week, per month or for some other time period?)

Is that payment for (this child) only, or does it cover other children in your household?

6. Is this arrangement a temporary one, or do you think you will continue to have child cared for by this relative for at least another 6 months?

(For those using care by a family day care provider - regulated or unregulated)

1. How many other children, if any, are cared for regularly by this caregiver whether full-time or part-time (including her own children)?

What ages are these children?	Number of children
0-1 years	_____
2-3 years	_____
4-5 years	_____
6-9 years	_____
10 or above	_____

2. To your knowledge, does this caregiver have any training in early childhood education, or child care, at the college or university level? Yes / No / Don't Know

3. Based on your experiences with this caregiver (perhaps with comparison to other arrangements you may have used in the past or considered using), to what extent does this caregiver / arrangement ....

   - provide warm, loving care that meets your child's individual needs?
   - encourage your child's independence and self-control?
   - provide lots of interesting activities that help your child learn new things?
   - encourage your child's language development through songs, stories, and organized play?
   - have a clean, safe area for children to play in -- both indoors and outdoors?
   - provide the kind of advice, and information that makes you feel comfortable and supported in your role as a parent?

(For each of the above)

Very much Adequate Not as much as it could/I would prefer Not relevant/No answer

4. How much does your family pay this caregiver (or an agency on behalf of the caregiver) to care for your child?

(If some amount other than zero) Is that per hour, per day, per week, per month or for some other time period?

Appendix (Continued)

Is that payment for (this child) only, or does it cover other children in your household?
Is this fee subsidized by government (other than through the tax system)? Yes / No

5. Is this arrangement a temporary one, or do you think you will continue to have child cared for by this caregiver for at least another 6 months?

(For those using care by someone unrelated to the child in the child's home:)

1. How would you describe this person? -- Is she / he ..

   - Someone affiliated with an agency / service for nannies or domestic workers?
   - Someone who responded to an advertisement you placed in the paper or a flyer
   - Someone who, herself, advertised in a local paper, supermarket, or other area?
   - A neighbour, acquaintance, or person a friend recommended to you?
   - A student who is available when you need care?

2. How many other children, if any, are cared for regularly by this caregiver, whether full-time or part-time (including her own children)?

What ages are these children?	Number of children
0-1 years	_____
2-3 years	_____
4-5 years	_____
6-9 years	_____
10 or above	_____

3. To your knowledge, does this caregiver have any training in early childhood education, or child care, at the college or university level?

   Yes / No / Don't Know

4. Please comment on the care and activities your care provider offers:

   To what extent does this caregiver...
   - provide warm, loving care that meets your child's individual needs?
   - encourage your child's independence and self-control?
   - provide lots of interesting activities that help your child learn new things?
   - encourage your child's language development through songs, stories, and organized play?
   - take your child out to play with other children or to other activities?
   - provide the kind of advice, and information that you need to feel comfortable and supported in your role as a parent?

(For each of the above)

Very much Adequate Not as much as it could/I would prefer Not relevant/No answer

Appendix (Continued)

5. How much does your family pay this caregiver to care for your child?

(If some amount other than zero) Is that per hour, per day, per week, per month or for some other time period?)

Is that payment for (this child) only, or does it cover other children in your household?
Does the person who provides care do any other tasks around the house for you, such as light housekeeping, cooking dinner, etc? Yes/No

6. Is this arrangement a temporary one, or do you think you will continue to have the child cared for by this caregiver for at least another 6 months?

(For those using care in a day care centre or before and after school program:)

1. Some child care programs are larger than others, some have more trained teachers. Programs also differ in their philosophy and the kinds of activities children are involved in.

   Approximately how large is your child's centre/program? How many children attend?

   1a (Desirable question. Not yet drafted. Is this day care centre in a church, in a community centre, in a school, in a YM/YWCA, etc.)

2. How would you describe your child's centre or program? To what extent does this program / your child's main teachers ...

   - provide warm, loving care that meets your child's individual needs?
   - encourage your child's independence and self-control?
   - provide lots of interesting activities that help your child learn new things?
   - encourage your child's language development through songs, stories, and organized play?
   - have a clean, safe area for children to play in -- both indoors and outdoors?
   - provide the kind of advice, and information that you need to feel comfortable and supported in your role as a parent?

(For each of the above)

Very much Adequate Not as much as it could/I would prefer Not relevant/No answer

3. How much does your family pay this centre to care for your child?

   (If some amount other than zero) Is that per hour, per day, per week, per month or for some other time period?

   Is that payment for (this child) only, or does it cover other children in your household?
   Is this fee subsidized by government (other than through the tax system)? Yes / No

Appendix (Continued)

4. Is this arrangement a temporary one, or do you think you will continue to have child cared for in this program for at least another 6 months?

The following questions are to be asked of all families with preschool children, whether currently using child care and whether parents are currently working/studying or not. These questions are derived from the PSID child development supplement, where they appear in a tabular form, which may be easier to use.

(Questions about child's care history. These questions concern the child care history of the child before he/she entered Grade One.)

H1. At what age was (child) first cared for by someone other than your spouse or yourself on a regular basis (by regular, I mean at least once a week for a month)

___ years ___ months

H2. What type of care arrangement did you use at that time?

- care by a relative
  In your home? In other home?
- care by a family day care provider
  licensed / not
- care by unrelated person in your home
- care in a nursery school
- care in a day care centre
- before and after school program

H3. How many days each week was (child) cared for in this arrangement?

H4. How many hours each week was (child) cared for in this arrangement?

H5. How old was (child) when you stopped using this child care arrangement?
or continuing... →→ . (If continuing, skip other questions)

H6. Why did that first arrangement end? (primary reason)

- caregiver terminated, moved, not available
- quality not very good, not as good for child as hoped
- better arrangement became available
- change in your family / change in employment / family move
- less expensive option became available
- other reason

H7. Did you use any other child care arrangement at the same time as this first arrangement? If Yes, proceed to H9. If no, proceed to H8.

Appendix (Continued)

H8. Have you used any other arrangements since then to provide care for your child by someone other than your spouse and yourself on a regular basis (by regular, I mean at least once a week for a month)?

Yes No

→ If yes, how old was (child) when that arrangement was first used?

H9. What type of care arrangement did you use at that time?

- care by a relative
  In your home? In other home?
- care by a family day care provider
  licensed/ not
- care by unrelated person in your home
- care in a nursery school
- care in a day care centre
- before and after school program

H10. How many *days* each week was (child) cared for in this arrangement?

H11. How many *hours* each week was (child) cared for in this arrangement?

H12. How old was (child) when you stopped using this child care arrangement?
or continuing...
(If continuing, skip other questions)

H13. Why did that second arrangement end? (primary reason)

- caregiver terminated, moved, not available
- quality not very good, not as good for child as hoped
- better arrangement became available
- change in your family / change in employment / family move
- less expensive option became available
- other reason

H14. Did you use any other child care arrangement at the same time as this arrangement? If Yes, proceed to H16. If no, proceed to H15.

H15. Have you used any other arrangements since then to provide care for your child by someone other than your spouse and yourself on a regular basis (by regular, I mean at least once a week for a month)?

Yes No

→ If yes, how old was (child) when that arrangement was first used?

And so on. Questions to be arranged in tabular form allowing for about 9 arrangements up to Grade One or up to current age of child whichever is less

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Appendix (Continued)

(Suggested additions/modifications regarding current questions about "children's activities.")

The next questions are about your child's participation in any early childhood programs, nursery school, or day care arrangement you may be using on a regular basis.

- Does he/she currently attend any nursery school, play group or other early childhood program or activity? (Please do not include child care programs or time spent *in kindergarten* or elementary school.)

  Yes No Don't Know Refusal

- →If yes to above:
  What type(s) of programs or activities? (Mark all that apply)

  - Nursery school or preschool (delete *or kindergarten*)
  - Play Group
  - Drop-in Centre
  - Toy Library
  - Head Start or similar program
  - Mom and Tot Program
  - Other
  - Don't know .....Refusal

- For about how many hours a week does he/she attend these in total?

(Add if child attends a nursery school or preschool program.)

What are the main reasons you have enrolled your child in this program?

- opportunities for him/her to play with other children
- contribute to child's learning, development -- promote school readiness
- fun for child, good experience
- break for parent

How much does your family pay for this program to care for your child?
(If some amount other than zero) Is that per hour, per day, per week, per month or for some other time period?)
Is that payment for (this child) only, or does it cover other children in your household?
Is this fee subsidized by government (other than through the tax system)? Yes / No

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